APPENDIX A

Opinion of the Court of Appeals

(Filed July 25, 1959)

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 7768

MANVILLE BOILER COMPANY, INCORPORATED, *Appellant*,

v.

COLUMBIA BOILER COMPANY OF POTTSTOWN, INCORPORATED, and COLUMBIA BOILER COMPANY, INCORPORATED, *Appellees*.

Appeal from the United States District Court for the Eastern District of Virginia, at Richmond.

Sterling Hutcheson, District Judge

(Argued January 16, 1959. Decided July 25, 1959)

Before Sobeloff, Chief Judge, Haynsworth, Circuit Judge, and Boreman, District Judge.

Stanton T. Lawrence, Jr. (Richard H. Catlett, Jr., and Christian, Barton, Parker & Boyd on brief) for Appellant, and Zachary T. Wobensmith, 2nd, (Wirt P. Marks, Jr. on brief) for Appellees.

HAYNSWORTH, Circuit Judge:

This is a patent case involving the usual defenses of invalidity and noninfringement. Upon proof that was largely documentary or undisputed, the District Judge was persuaded that both defenses were meritorious and he filed appropriate findings of fact and conclusions of law. We take a different view.

The patent involved, Mandelburg No. 2,663,107 issued in 1953, covers a modification of the Stauffer design for domestic boilers so as to permit the use of a circular rather than an oval stack outlet and to provide a variable,

automatic damper permitting flue gases to be drawn off through the stack without passing around the uppermost water baffle when the internal boiler pressures are excessive.

In 1938 Stauffer Patent No. 2,119,606 was issued covering a design of a boiler, which is illustrated by the figure in the margin.[1] In boilers of this design, water is circulated between inner and outer shells of the boiler. Integral with the inner shell are four water containing baffles so disposed that flue gases rising from the combustion chamber follow a serpentine pattern around and over the baffles before being discharged through the stack. Each of these baffles is connected to each side of the inner shell of the boiler, so that there is a water connection at each side of each baffle as well as a water connection at the rear of the baffle. Above the topmost gas passage and the stack outlet, there is another space for water, or for water containing elements, to provide domestic hot water. The efficiency of the Stauffer boiler is influenced by the size and proportion of the flue gas passages. If the uppermost passage is unduly large, a loss of efficiency is experienced, and Stauffer's design, for domestic boilers, did not provide sufficient vertical space for a circular stack outlet eight inches in diameter. To provide a stack outlet of sufficient cross-sectional dimension, therefore, an oval shaped stack outlet was provided. Since the chimneys in substantially every home are equipped with circular flues, adapters were required to connect the oval stack outlet of the boiler to the circular flue of the chimney. The testimony indicates that the oval shaped outlet is somewhat more efficient than the circular shaped outlet, for it is a less radical departure from the shape of the uppermost gas passage, but the use of adapters to accommodate the oval opening to the circular chimney flue was expensive and troublesome.

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[1] Here reproduce Figure 4 of Stauffer Patent No. 2,119,606.

The predecessor of Columbia Boiler Co. of Pottstown, Inc. (Columbia) in 1936 began the manufacture of domestic boilers of the Stauffer design. A witness, who had served Columbia as plant manager, testified that during the period 1936-1941 Columbia had attempted to modify the Stauffer design so as to permit the use of a circular stack outlet. These attempts were directed to enlargement and modification of the space above the topmost baffle to give greater vertical height to the stack outlet without lowering its lower edge. Columbia's experimental modifications of the design to permit the use of a circular stack outlet resulted in such a decrease in efficiency, however, that they were not adopted. Apparently, it did not realize that its purpose might be achieved by altering the baffle, the lower boundary of the limited space, rather than the upper boundary, and Columbia continued to use the oval stack outlet until 1953, when, after issuance of the Mandelburg Patent, Columbia modified its design in accordance with the teaching of the patent.[2] After commencement of this suit, it made a slight further modification in this design, but it has equipped its boilers with circular stack outlets since 1953.

Benedict W. Mandelburg controlled Columbia Boiler Sales Co. of New York, which from 1939 to 1948 was a principal sales outlet for Columbia, purchasing and reselling boilers manufactured by Columbia of the tubeless Stauffer design as well as tubular boilers for residential use. This association was severed in 1948, and in 1951 Mandelburg applied for a patent upon what he claimed to be a substantial improvement in the Stauffer design.

Mandelburg undertook to provide space for a circular stack outlet by disconnecting the uppermost wet baffle

[2] Witnesses for Columbia testified this was done without actual knowledge of the patent. A mistake in the manufacture of one boiler, they said, led them to the independent discovery of Mandelburg's improvement.

from the inner shell of the boiler at the rear, leaving the water connections at the side unaffected. The rear of this baffle was cut off and sealed so as to provide a space between the rear of the baffle and the inner shell, permitting the lowering of the bottom of the stack opening to a position approximating the level of the bottom of the uppermost wet baffle, or even lower. To direct the flue gases around and over the uppermost wet baffle, he interposed a dry baffle connecting the lower rear edge of the uppermost wet baffle to the inner shell of the boiler at a point below the new stack opening. He further disclosed that this dry baffle might be equipped with an automatic damper, permitting flue gases to pass directly to the stack after completing the second passage when internal pressures were excessive. Insofar as it is relevant to our inquiry, what he did is illustrated by a figure in the margin.[3]

Claim 1 of the Mandelburg Patent is in the following language:

> "1. A boiler construction comprising inner and outer shells spaced apart to provide a water space therebetween, said inner shell having substantially horizontally-extending, water-carrying heating sections vertically spaced from one another and interconnected through said water space, said heating sections being arranged to provide for the normal serpentine flow of heating gases around and between the heating sections, a cylindrical integral stack outlet structure extending between the inner and outer shells and lying in an elevated location adjacent the uppermost heating section and bridging spaces lying above and below the uppermost heating section, and transversely-extending, downwardly and rearwardly inclined baffle means in the interior of the boiler extending from the uppermost heating section to the wall of the inner shell adjacent to and below the lower part of the stack outlet structure."

[3] Here reproduce Figure 3 from the Mandelburg Patent.

The difficulty and expense in the installation of boilers with oval shaped stack outlets were, perhaps, not so great that their avoidance could be classified as a major contribution to the heating industry. Their avoidance was desirable, however, which clearly appears from Columbia's own unsuccessful efforts to accomplish it, its adoption in 1953 of the circular stack outlet and its urgent insistence here that it has a right to continue to sell boilers incorporating substantially the improvement disclosed by Mandelburg. Columbia and one other manufacturer of boilers of the Stauffer design were the only manufacturers offering boilers with oval shaped stack outlets, and their modification of their design to facilitate installation and to reduce its cost would seem obviously desirable. Though the testimony indicates Columbia sought the solution of the problem, it did not find it for more than seventeen years and then only after the Mandelburg Patent had been issued. After Mandelburg pointed the way, the solution may seem simple and obvious, but it hardly can be said to have been obvious in a legal sense when Columbia's skilled craftsmen could not provide the answer, though the desirability of improvement had been recognized for many years. As Judge Sobeloff said in S. H. Kress & Company v. Aghnides, 4 Cir., 246 F. 2d 718:

> "The usual defense that the result would have been obvious to one skilled in the art cannot avail the defendant here. Obviousness does not mean that one skilled in the art can perceive the solution after it has been found and pointed out by someone else; the test of obviousness is as of an earlier time, when the search is on. * * *"

Numerous cases give expression to the principle. Goodyear Tire & Rubber Co., Inc. v. Ray-O-Vac, 321 U.S. 275, 64 S. Ct. 593, 88 L. Ed. 721; Merck & Co., Inc. v. Olin Mathieson Chemical Corporation, 4 Cir., 253 F. 2d 156; Otto v. Koppers Company, Inc., 4 Cir., 246 F. 2d 789; Emerson v. National Cylinder Gas Company, 1 Cir.,

251 F. 2d 152; Muench-Kreuger Candle Co. v. Wilson, 9 Cir., 246 F. 2d 624; L-O-F Glass Fibers Company v. Watson, D. C. Cir., 228 F. 2d 40.

Mandelburg was not the first to use dry baffles in boilers to direct the flow of the gases over and around wet baffles. O'Hara Patent No. 2,037,665 and an Austrian Patent No. 32864 both show an arrangement of elements or baffles containing water with dry baffles to direct and control the flow of gases around them, and in each instance some of the wet baffles were wholly or partially above the level of the stack outlet. The boilers disclosed by those patents are not of the Stauffer design. Even without the disclosures of those patents, the use of dry baffles to control the direction and flow of hot gases would seem perfectly obvious, but the problem arose here out of the Stauffer design, and Mandelburg's contribution was the conception that the efficiency of that design could be preserved while modifying it to accommodate a circular stack outlet by separating the rear of the uppermost wet baffle from the inner shell and lowering the bottom of the stack outlet into the space thus provided. Neither O'Hara nor the Austrian patent anticipated what Mandelburg did, for the baffle arrangements they discloses were not Stauffer's and they were not concerned with the solution of the problem which was peculiar to the Stauffer design.

The O'Hara and Austrian patents, and each of the other patents cited by the defendants, were considered by the Patent Office, a circumstance which reinforces the statutory presumption of validity. We said in Chesapeake & O. Ry. Co. v. Kaltenbach, 4 Cir., 95 F. 2d 801:

> "* * * A patent is prima facie valid (Parks v. Booth, 102 U.S. 96; 26 L. Ed. 54; Echnbeuter v. Holthaus, 105 U.S. 94, 26 L. Ed. 939), and the presumption of validity is strengthened where, as here, the principal references urged against the patent have been considered by the Patent Office. As we said in Gulf Smokeless Coal Company v. Sutton, Steele & Steele, 4

> Cir., 35 F. 2d 433, 437: 'Prior patents relied upon as anticipations were carefully considered [by the Patent Office], and numerous changes were made in the claims before the patents were finally issued. It is well settled that in such case the presumption of patentability arising from the issuance of the patent is greatly strengthened.' "

In this Court the defense of anticipation is principally bottomed upon a tubular boiler manufactured and sold by Columbia. Mandelburg was familiar with this boiler for he had bought and sold it during the years of his association with Columbia. This boiler, instead of the wet baffles of the Stauffer design, has nineteen tubes arranged in four rows with vertical and horizontal spacing between the tubes, so that the rising gases flow around the tubes through the spaces separating them. To prevent the flue gases from being drawn directly to the stack outlet at the rear of the boiler, a dry baffle was placed above the topmost row of tubes and, rearward of the tubes, was inclined downwardly and rearwardly to a connection with the inner shell of the boiler at a point below the stack outlet. This baffle served the office of diverting the flue gases, so that they passed around the tubes near the front of the heating space. The baffle was of such shape that the space above it, through which all flue gases had to be exhausted, had a vertical dimension less than that of the stack outlet, but Columbia, who manufactured the boiler and recognized the desirability of modifying its Stauffer design to permit a circular stack outlet, did not recognize the answer to its problem in its tubular boiler. What was not obvious to it during the many years during which the problem went unanswered, can hardly be said to have been obvious to Mandelburg so as to deprive him of reward for his contribution.

We do not think that Claim 1 of the Mandelburg Patent can be fairly said to read upon Columbia's tubular boiler. The Patent Office required Mandelburg to make an elec-

tion of the species to which his invention was applicable, and he elected the Stauffer design, in the light of which it seems plain that the language Claim 1 was directed exclusively to the Stauffer design with gases flowing in wide serpentine turns through the spaces between baffles rather than rising substantially vertically in undulating waves between spaced tubes. Moreover the office of Mandelburg's dry baffle was not to achieve a desired dispersion of the gases in the heating area, which the unmodified Stauffer design provided, but to create a space to permit an enlargement of the vertical dimension of the stack outlet. As we read Claim 1 it is fairly limited to Mandelburg's actual contribution and cannot reasonably be said to read upon Columbia's tubular boiler with its dry baffle serving the sole office of achieving a forward dispersion of the hot gases.

Holding as we do that the Mandelburg Patent No. 2,663,107 is valid, we reach the question of infringement.

The figure in footnote 3 shows Mandelburg's dry baffle inclined from the horizontal, and he prescribes in claim 1 "downwardly and rearwardly inclined baffle means." When Columbia first produced Stauffer designed boilers with a circular stack outlet in 1953, the dry baffle it employed was inclined in a plane similar to that in Mandelburg's patent drawings, and the boilers it produced until after the filing of the suit appear to be literal copies of the patent. After this suit was filed, however; Columbia, introduced a slight modification of its design and has since then produced what it calls its "L Series." In this series, the dry baffle is welded to the underside of the uppermost wet baffle and it extends rearwardly in a horizontal plane to the inner shell of the boiler, at a point immediately below the stack outlet. Columbia, therefore, contends that the dry baffle, itself, is not inclined downwardly and rearwardly. The additional space made available by Mandelburg's disclosure was carved out by the severance of the

rear portion of the uppermost wet baffle and since the claim required the stack opening to bridge spaces lying above and below the uppermost wet baffle, it is clear that the interposed dry baffle must be, in part at least, below the level of the underside of the uppermost wet baffle. It seems to us, however, to make no difference whether the dry baffle lies in one plane or two. A dry baffle extending from the top of the uppermost wet baffle would have to be inclined substantially from the horizontal to reach a point below the stack outlet, and such an arrangement would be a literal infringement. Precisely the same result is accomplished if the baffle be made angular by utilizing the rear plate of the wet baffle and a horizontally disposed dry baffle, for together they provide both downwardly and rearwardly inclined means. Traveling the two sides of a triangle seems obviously equivalent to passage along the hypotenuse. The dimensions in Columbia's "L Series" were such that the dry baffle could be attached in a horizontal plane directly to the bottom of the wet baffle without any downward extension of the rear plate of the wet baffle, but the flow of the gases is still controlled by downwardly and rearwardly inclined baffle means within the meaning of the claim. If, however, the "L Series" be regarded as outside the literal language of the claim, it is but slightly so. Granting the claim the narrowest range of equivalents compels the conclusion that there is infringement. Avoidance of literal imitation by a change so insubstantial should not defeat the patent. Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 70 S. Ct. 854, 94 L. Ed. 1097.

Columbia contends, however, that its stack outlet does not bridge spaces above and below the uppermost heating section, it being apparent from its horizontally disposed dry baffle attached to the underside of the uppermost wet baffle, that the bottom of the stack outlet is at the same level as the bottom of the uppermost heating section. The term "bridging," however, does not require that the stack

outlet extend into the space in order to connect it with some other space.' So long as the stack outlet comes to, without overlapping the space, it bridges it within the meaning of the claim; just as a swing bridge reaches to, but does not overlap, a bank.

We think that, reasonably construed, claim 1 of the Mandelburg Patent reads upon both series of defendant's Stauffer boilers having circular stack outlets.

The District Judge, we think correctly, dismissed Columbia from the action for lack of venue under 28 USCA § 1400(b), leaving as the sole remaining defendant Columbia Boiler Co., Inc., a Virginia corporation, all of the stock of which is owned by Columbia's stockholders and which is extensively controlled by Columbia, or its stockholders, in Pottstown. Though there was advertising matter referring to the office of the Virginia corporation as a factory branch and Columbia's home office in Pottstown as its offices and factory, suggesting a unitary business, the operations of the two corporations were kept distinct and separate. The Virginia corporation was treated as a separate entity, though its policies and activities were directed from Pottstown. Columbia sold boilers to the Virginia corporation, which paid for them, usually promptly, and resold them to customers in Virginia. Columbia did not service boilers sold by the Virginia corporation to Virginia customers, and it can be held to have a regular and established place of business in Virginia only by treating the office of the Virginia corporation as Columbia's regular and established place of business.

Decision on the venue question is controlled by Cannon Manufacturing Co. v. Cudahy Packing Co., 267 U.S. 333, 45 S. Ct. 250, 69 L. Ed. 634. If the rule of that case unduly emphasizes the form in which related corporations cast their intercorporate transactions and minimizes the control exercised by the one of the other, the rule, nevertheless, is well established. See Harris v. Deere and Com-

pany, 4 Cir., 223 F. 2d 161; Berkman v. Ann Lewis Shops, Inc., 2 Cir., 246 F. 2d 44; 18 Fletcher, Cyclopedia Corporations, § 8773. As this Court observed in Harris v. Deere and Company, supra, we cannot change or modify the rule, for any possible reconsideration of its decisions is the province of the Supreme Court.

While the foregoing cases were not under the special patent venue section, the District Judge could hardly find that Columbia had a regular and established place of business in Virginia if he could not hold that it was doing business at all in Virginia.

Accordingly, the decision below will be affirmed in part, reversed in part and remanded for further proceedings consistent with this opinion.

Affirmed in part and reversed in part.

APPENDIX B

Findings of Fact and Conclusions of Law of the District Court

1. Plaintiff is a New York corporation engaged in the sale of domestic heating boilers.

2. Defendant, Columbia Boiler Company of Pottstown, Incorporated (Columbia-Pottstown) is a Pennsylvania corporation engaged in the manufacture and sale of domestic heating boilers having its principal place of business at Pottstown, Pennsylvania.

3. Defendant, Columbia Boiler Company, Incorporated (Columbia-Virginia) is a Virginia corporation engaged in selling boilers manufactured by defendant, Columbia-Pottstown, as well as other equipment.

4. Plaintiff alleges a cause of action against defendants for infringement of United States Letters Patent No.

2,633,107 which relates to an improvement in the construction of domestic boilers.

5. Defendants in their answers assert the usual defenses of non-infringement, invalidity and unenforceability and counterclaim for a declaratory judgment adjudging the patent invalid and not infringed and further allege causes of action for unfair competition.

6. Defendants offered no proof concerning the unfair competition allegations.

7. Plaintiff is and has been since February 8, 1954, the owner by assignment of said Letters Patent and all rights to recover for past infringements thereof.

8. The Court has jurisdiction of the subject matter of this suit and of the parties hereto.

9. In about 1937, Columbia-Pottstown's predecessor, Columbia Boiler Company, a partnership composed of Frank I. Boarman and Harry J. Loughney, began manufacturing domestic heating boilers which will be referred to as the Stauffer design. This boiler construction is represented by the drawing in U.S. Patent No. 2,119,606 (Ex. P3). This design provides a combustion chamber in which combustion gases are generated which flow upwardly through a zigzag serpentine passage defined by inwardly tapering baffles. The Stauffer boiler also has an outer shell. The space between the outer and inner shell is filled with water making the tapering baffles perform as water chambers or heating sections so that the water contained within them is heated by the flue gases that pass around and over them.

10. Benedict W. Mandelburg filed an application for patent on a heating boiler with vertical undulating flue on April 15, 1950, which issued as patent No. 2,633,107 on March 31, 1953. Only claim 1 of the patent is in issue.

11. Defendants are charged with infringing claim 1 of this patent which reads:

"1. A boiler construction comprising inner and outer shells spaced apart to provide a water space therebetween, said inner shell having substantially horizontally extending, water-carrying heating sections vertically spaced from one another and interconnected through said water space, said heating sections being arranged to provide for the normal serpentine flow of heating gases around and between the heating sections, a cylindrical integral stack outlet structure extending between the inner and outer shells and lying in an elevated location adjacent the uppermost heating section and bridging spaces lying above and below the uppermost heating section, and transversely extending, downwardly and rearwardly inclined baffle means in the interior of the boiler extending from the uppermost heating section to the wall of the inner shell adjacent to and below the lower part of the stack outlet structure."

12. Defendant Columbia Boiler Company of Pottstown and its predecessors have been manufacturing and selling tubular boilers as exemplified by Defendants' Exhibit D-36 since prior to 1947.

13. The boilers of Defendants' Exhibit D-36 fully anticipate claim 1 of the Mandelburg patent, No. 2,633,107.

14. The patentee Mandelburg, while his application was pending in the Patent Office, restricted the claims to include as an essential limitation that the stack outlet structure bridge spaces lying above and below the uppermost heating section.

15. The patentee Mandelburg, while his application was pending in the Patent Office restricted the claims to include as an essential limitation that the baffle means extending

from the uppermost heating section to the wall of the inner shell be "downwardly and rearwardly inclined."

16. The boilers of Columbia Boiler Company of Pottstown as exemplified by Exhibit D-32 do not come within the scope of claim 1 of the Mandelburg patent 2,633,107, as they do not have any stack outlet structure bridging spaces lying above and below their uppermost heating section.

17. The boilers of Columbia Boiler Company of Pottstown as exemplified by Exhibit D-33 do not come within the scope of claim 1 of the Mandelburg patent 2,633,107, as they do not have any stack outlet structure bridging spaces lying above and below their uppermost heating section.

18. The boilers of Columbia Boiler Company of Pottstown as exemplified by Exhibit D-32 do not infringe claim 1 of the Mandelburg patent No. 2,633,107, because they do not have any downwardly and rearwardly inclined baffle means in the interior of the boiler extending from the uppermost heating section to the wall of the boiler adjacent to and below the lower part of the stack outlet structure.

19. The boilers of Columbia Boiler Company of Pottstown as exemplified by Exhibit D-33 do not infringe claim 1 of the Mandelburg patent No. 2,633,107, because they do not have any downwardly and rearwardly inclined baffle means in the interior of the boiler extending from the uppermost heating section to the wall of the boiler adjacent to and below the lower part of the stack outlet structure.

Conclusions of Law

1. Defendant, Columbia Boiler Company of Pottstown is not a proper party to the suit for lack of venue.

2. Claim 1 of the Mandelburg patent No. 2,633,107 is invalid in view of the prior art:

3. Claim 1 of the Mandelburg patent No. 2,633,107 is invalid in view of the prior public use and sale of Columbia tubular boilers.

4. Defendants do not infringe claim 1 of the Mandelburg patent No. 2,633,107.

(Sgd.) STERLING HUTCHESON,
United States District Judge.

July 22, 1958.

APPENDIX C

Patent Act of 1952. § 1. 66 Stat. 813. 35 U.S.C. §§ 1-293

. . . . . .

§ 103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, § 1, 66 Stat. 798.